

An Evidence-Informed Approach: *Building Student Success Interventions that Work*

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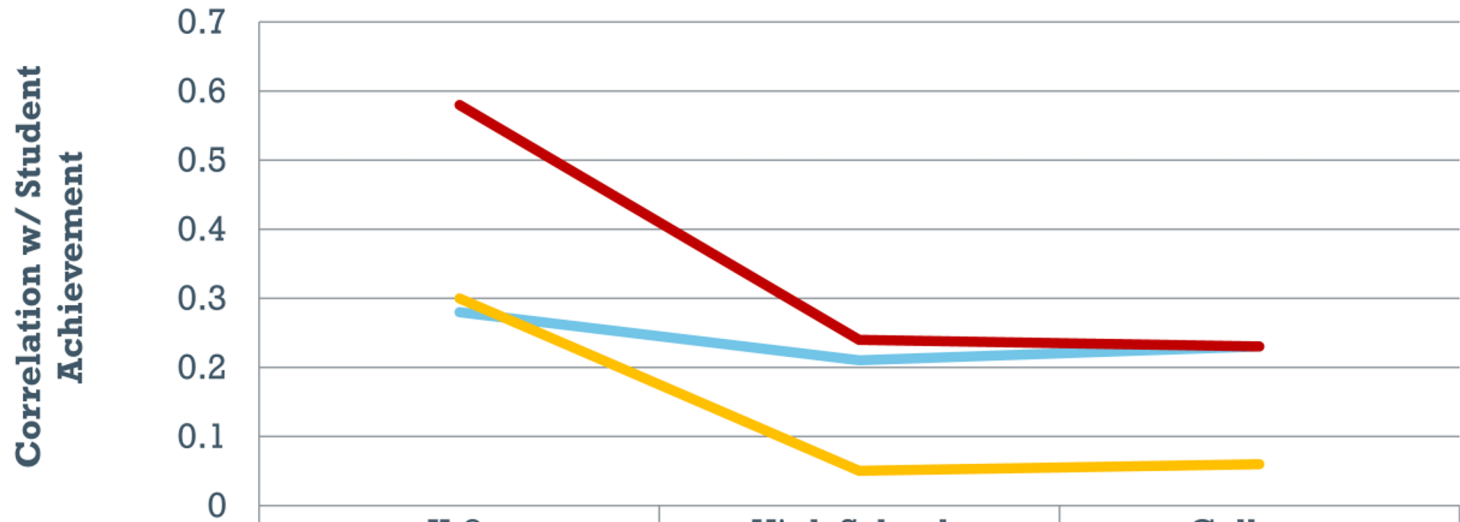
Challenges in converting theory to practice

What are noncognitive skills?

**The behavioral,
motivational,
emotional, and
social domains of
student success**



Poropat (2009) Meta-analysis



	K-8	High School	College
Conscientiousness	0.28	0.21	0.23
Agreeableness	0.3	0.05	0.06
Cognitive ability	0.58	0.24	0.23

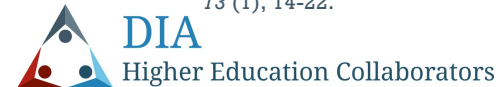
Construct	r_{GPA}	$r_{\text{retention}}$
Academic-related Skills	.129	.301
Academic Goals	.155	.212
Academic Self-efficacy	.378	.259
Institutional Commitment	.108	.206
Social Support	.096	.204
SES	.155	.212
ACT® or SAT® Scores	.368	.121

Achievement, Behavior, and Success in Developmental Math Courses

		Effort Level (participation, attendance, complete assignments)		
		High	Medium	Low
Math Readiness	High	92%	80%	59%
	Medium	86%	67%	29%
	Low	74%	50%	19%

n=713

Li., K., et al. (2013). Readiness, behavior, and foundational mathematics course success. *Journal of Developmental Education*, 13 (1), 14-22.



What are noncognitive skills?

**The behavioral,
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student success**



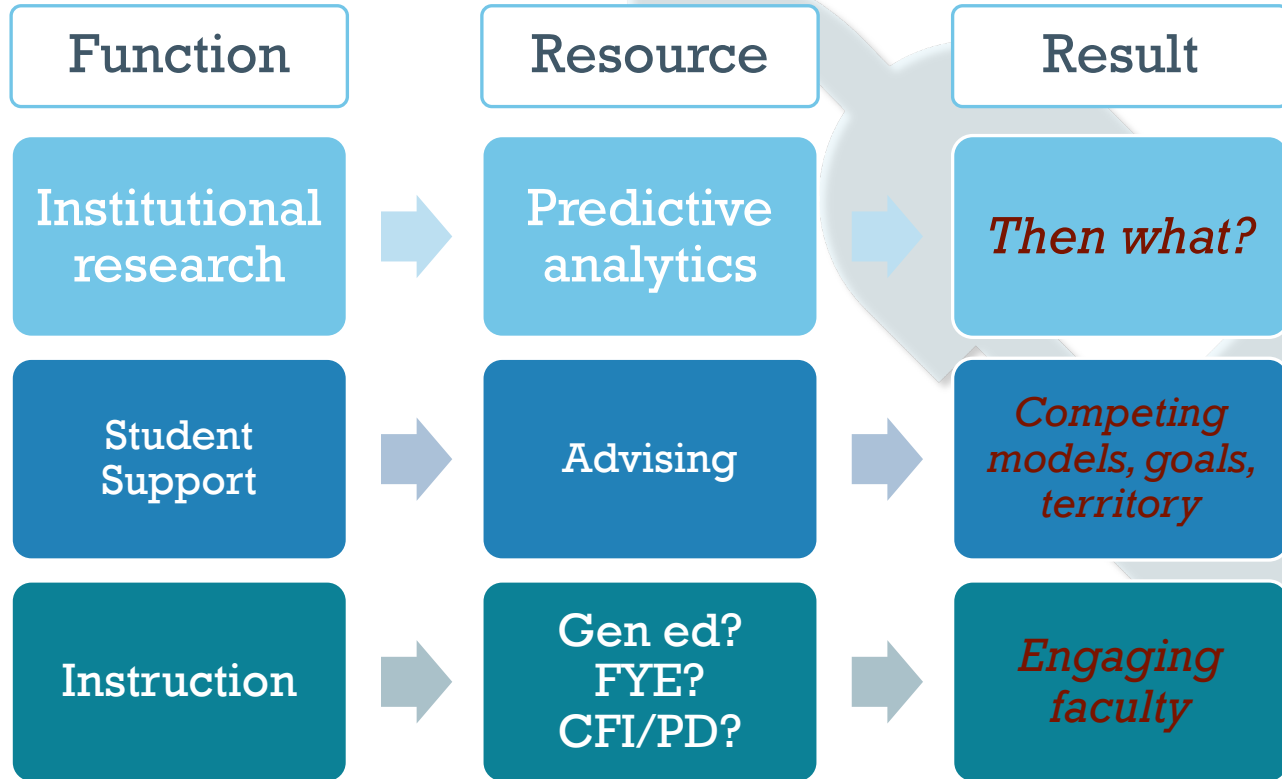
*“Scholars base most research on retention on sociological principles and theory, and focus on **groups rather than individuals**. As a result, we know that some groups of students, such as **educationally disadvantaged students and certain minority groups**, often adapt poorly to their college environments.*

We know less about the characteristics of individuals within such a group that increase the likelihood of their remaining in school until graduation.”

WHO > WHY

Bean & Eaton (1995)

But where do these data plug into our institutions?



Are noncognitive skills curricular or co-curricular?

Co-Curricular

- Noncognitive factors predict/relate to other learning
- Assessments are predictive, diagnostic, remedial in nature
- Items are some derivative of self-report
- Use is secondary to teachers/faculty

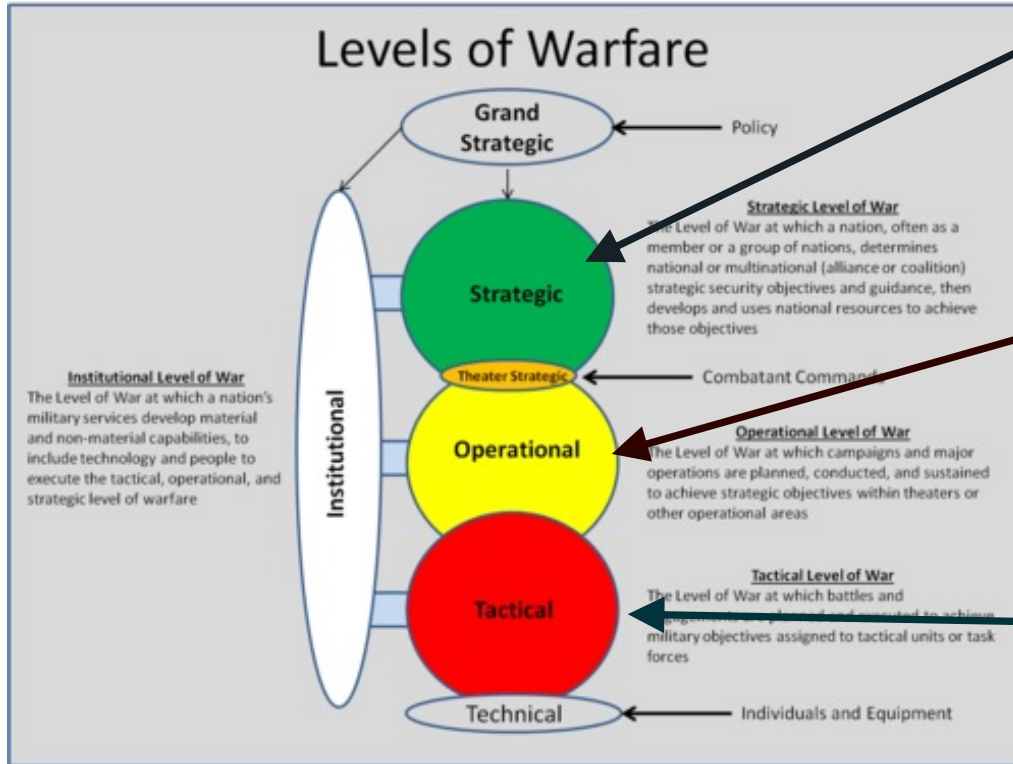
Curricular

- Noncognitive factors ARE the learning
- Assessments determine the achievement of skill
- Items are criterion-referenced (right, wrong answers)
- Use is primary to teachers/faculty



DIA

Higher Education Collaborators



What do we want to achieve?

What resources do we have?

How do we apply those resources to achieve that goal?

5-minute activity:

Pick a factor as an outcome you want to impact in students...

1. Why is that important?
(e.g., retention, completion of gateway courses, DEI)

2. How would you define that?

3. What type of intervention might be helpful to develop this outcome?



Reflecting on that activity



What challenges did you have in selecting a factor?



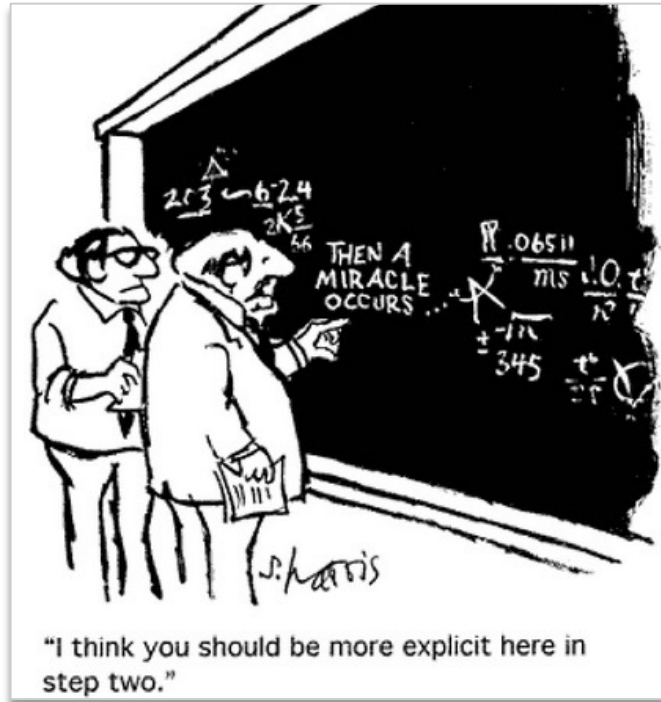
How did you come up with your definition?



How did you “design” your intervention?

Developing evidence- informed interventions

If evidence isn't guiding our work...



...then what is?

LITTLE BOBBY



by Robert M. Lee and Jeff Haas



CAS Professional Standards for Higher Education (2023)

CAS General Standards Related to Evidence-Informed Practice

Standard 2.3.1: The functional area must provide a research-informed, theory-informed, or evidence-based rationale for designing programs and services, strategies, and tactics intended to influence student learning, development, and success goals.

Standard 4.1.10: The functional area must use assessment data, research, and theory to review and revise program mission, goals, and outcomes in a regular cycle.

Standard 4.3.1: The functional area must use theory, research, and evidence to develop and implement its programs and services to achieve stated mission, goals, and outcomes.

Standard 4.6.5: The functional area must use evidence from assessment activities and research to inform decision-making and continuous improvement.

Standard 6.5.2: Functional area leadership must utilize research, scholarship, evidence, philosophies, principles, and values to guide the work of the functional area.

Standard 6.5.4: Functional area leadership must develop, adapt, and improve programs and services in response to the needs of changing environments, populations served, current research, and evolving institutional priorities.

Types of Evidence

Theory & Empirical Research | Institution-Specific Data | Faculty/Staff Knowledge & Experience | Student Knowledge & Experience

What do we **believe should work** to improve student success?

Theory (ideally relevant with respect to outcome, population, and setting)

What do we **know can work** to improve student success?

Empirical research on the effectiveness of student support interventions

What's **most needed at your institution** to improve student success?

Institutional data (on students, faculty/staff, or programs/processes)

What is **most likely to work at your institution** to improve student success?

Faculty/staff knowledge & experience
Student knowledge & experience

A Four-Step Approach



1. Specify Appropriate Distal Outcome(s)

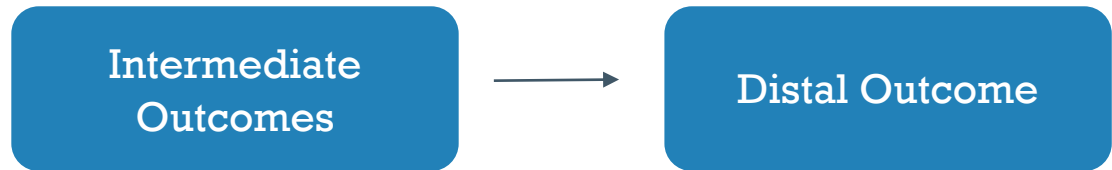
What is the ultimate aim of your intervention? What problem do you want to solve/goal do you want to achieve?

- Is the distal outcome **malleable** and **feasible**? (Theory/Research)
- Is the distal outcome **relevant** and **important**? (Institutional Data; Stakeholder Insights)

2. Specify Intermediate (More Proximal) Outcomes

What intermediate steps must be taken to achieve the distal outcome?

- What is the etiology (cause/origin) of the problem? What is known about how to achieve the goal? (Theory/Research)
- What path to achieving the distal outcome is most **appropriate** and **feasible** in your context? (Institutional Data; Stakeholder Insights)



A Four-Step Approach



3. Develop Intervention Components

What are the specific components of your intervention (e.g., pedagogical strategies, discussions/activities, instructor/facilitator training, tools/resources) and how will they lead to achievement of the intermediate outcomes?

- What interventions should impact the intermediate outcomes? (Theory)
- What interventions have been shown to impact the intermediate outcomes? For whom and under what conditions? (Empirical Research)
- What interventions are most **appropriate** and **feasible** in your context? (Institutional Data; Stakeholder Insights)



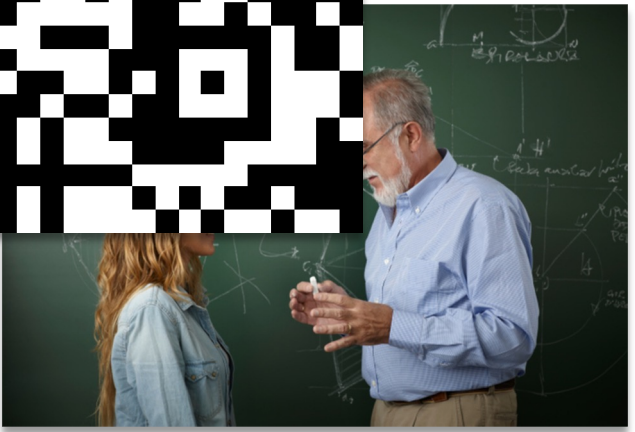
Example: Developing an Evidence-Informed Academic Success Program (ASP)

Description:

- Mandatory 8-week course for students on academic probation
- Taught by student leaders
- Class sessions on time management, campus resources, communicating with professors, writing skills, goal-setting, etc.

Distal Outcomes:

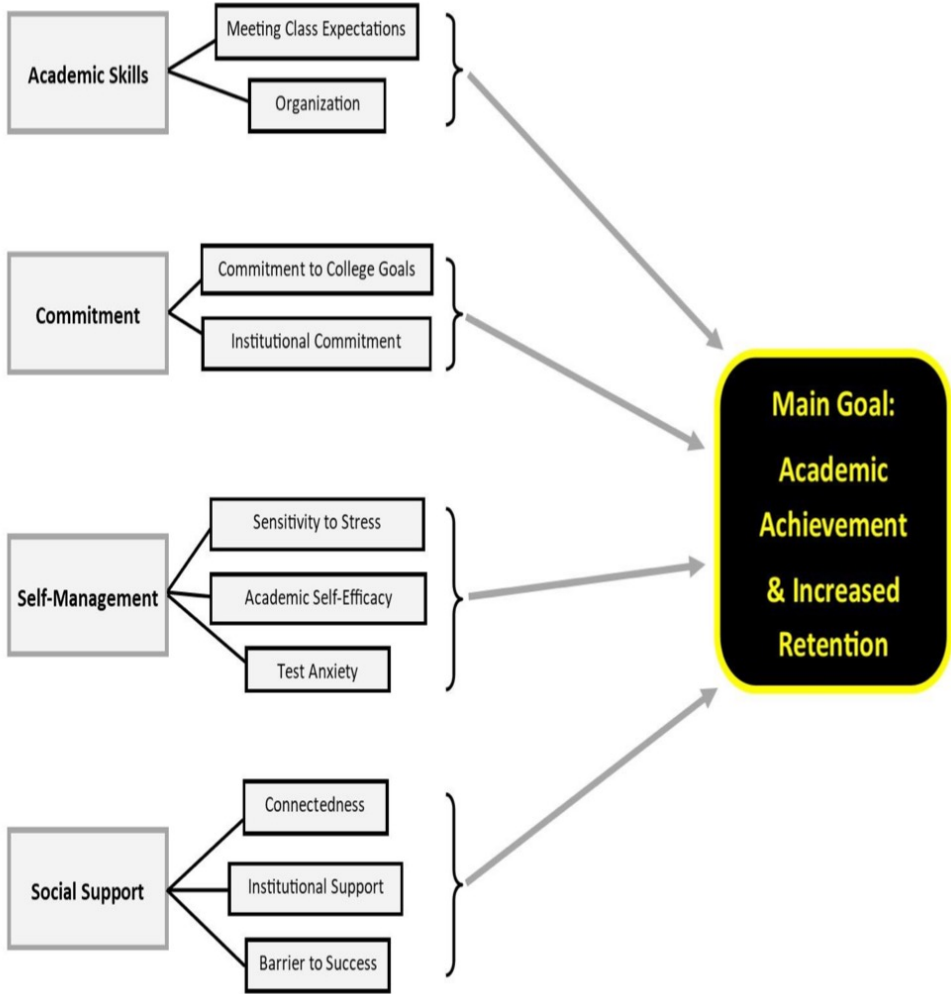
- Increase cumulative GPA
- Increase retention



Example: Developing an Evidence-Informed Academic Success Program (ASP)

ETS *SuccessNavigator* based on an extensive review of the academic success and retention literature.

- Identified 4 general skill areas and 10 subskills



Example: Developing an Evidence-Informed Academic Success Program (ASP)

ETS *SuccessNavigator* based on an extensive review of the academic success and retention literature.

- Identified 4 general skill areas and 10 subskills
- Based on the *SN* academic success framework, created 21 student learning outcomes (SLOs)

General Skill	Subskill	Student Learning Outcomes
		As a result of completing the SAS program students will:
Academic Skills Tools and strategies for academic success	<i>Organization</i>	Be able to apply at least 1 organizational strategy that promotes the ability to organize academic assignments and manage time effectively. Achieve a satisfactory score* on Organization subscale of <i>SuccessNavigator</i> .
	<i>Meeting Class Expectations</i>	Be able to list 3 general class expectations that promote academic success. Be able to list 2 resources that clarify specific expectations for each course. Achieve a satisfactory score* on Meeting Class Expectations subscale of <i>SuccessNavigator</i> .
Commitment Active pursuit toward an academic goal	<i>Commitment to College Goals</i>	Be able to identify their personal motivations for pursuing a college education. Be able to develop three academic SMART goals to help them succeed. Achieve a satisfactory score* on Commitment to College Goals subscale of <i>SuccessNavigator</i> .
	<i>Institutional Commitment</i>	Be able to identify 2 sources of institutional pride they hold for JMU. Achieve a satisfactory score* on Institutional Commitment subscale of <i>SuccessNavigator</i> .
Self-Management Reactions to academic and daily stress	<i>Sensitivity to Stress</i>	Be able to identify 2 stress management techniques to help minimize the effects of stress. Achieve a satisfactory score* on Sensitivity to Stress subscale of <i>SuccessNavigator</i> .
	<i>Academic Self-Efficacy</i>	Achieve a satisfactory score* on Academic Self-Efficacy subscale of <i>SuccessNavigator</i> .
	<i>Test Anxiety</i>	Be able to identify 3 symptoms of test-anxiety and list 3 strategies to minimize its effects. Achieve a satisfactory score* on the Test Anxiety subscale of <i>SuccessNavigator</i> .

Example: Developing an Evidence-Informed Academic Success Program (ASP)

Self-Efficacy Theory:

- Bandura (1977) Theory of Self-Efficacy
- Schunk's (1985) application of Bandura's theory to college students

Self-Efficacy Theory

Cognitive modeling that includes verbalization of task strategies, the intention to persist despite problems, and confidence in achieving eventual success

Explicit training in strategies for accomplishing tasks

Performance feedback that points out correct operations, remedies, errors, and reassures students that they are developing content mastery

Attributional feedback that emphasizes the successes being achieved and attributes these successes to the combination of sufficient ability and reasonable effort

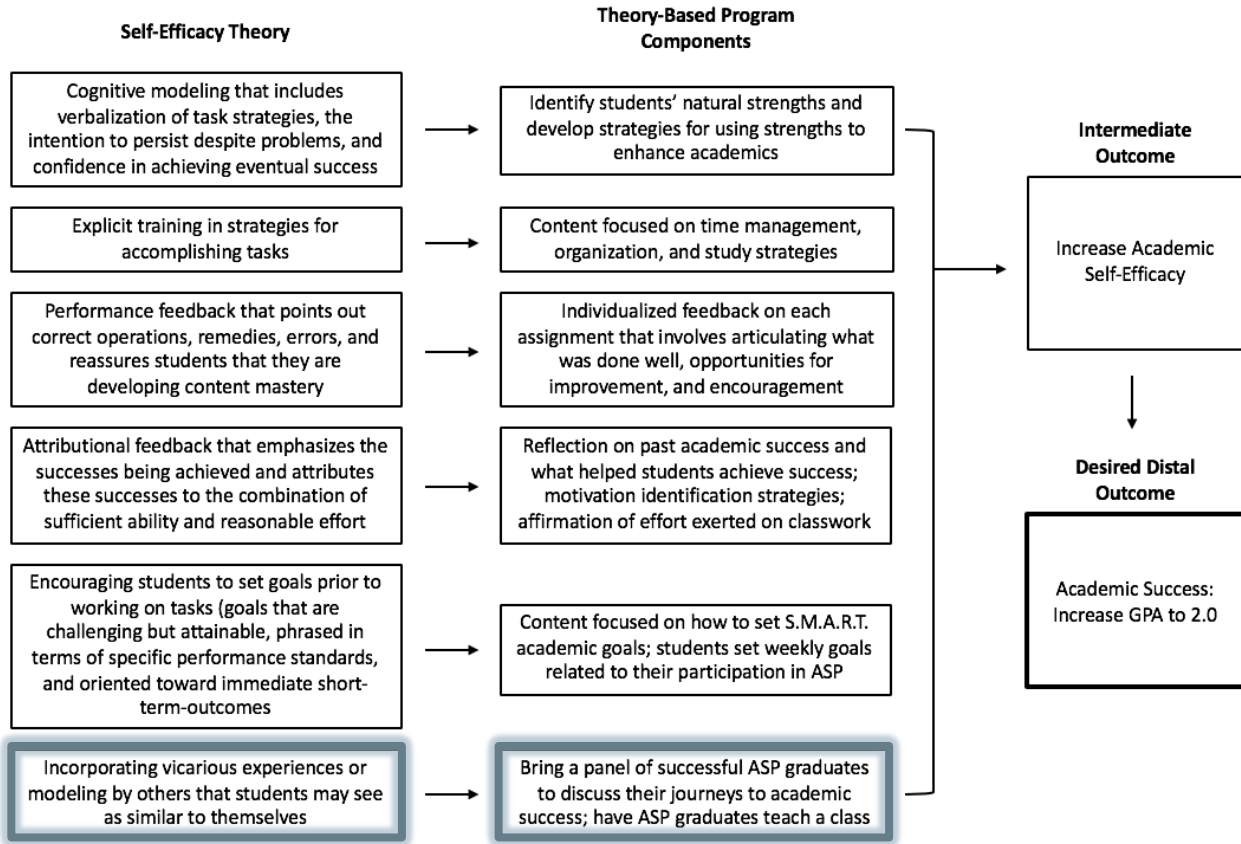
Encouraging students to set goals prior to working on tasks (goals that are challenging but attainable, phrased in terms of specific performance standards, and oriented toward immediate short-term-outcomes)

Incorporating vicarious experiences or modeling by others that students may see as similar to themselves

Example: Developing an Evidence-Informed Academic Success Program (ASP)

Self-Efficacy Theory:

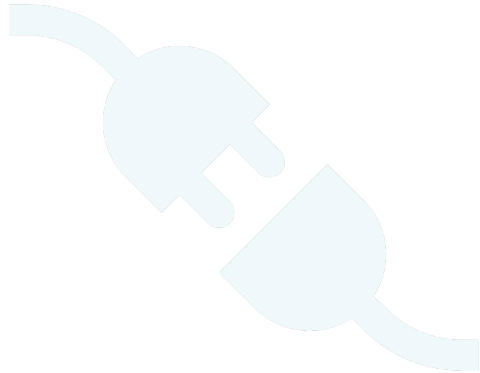
- Bandura (1977) Theory of Self-Efficacy
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**But where do these
interventions go?**

Intervention Capital

1. Pedagogical approaches
2. Collaboration with other offices, programs, services
3. Curricular approaches: Course content, class activities
4. Human resources (i.e., strategic planning, cultural development, training of faculty/staff)
5. Environment



Factor	Resource
1	Organization
2	Academic Success (tutoring, academic coaching, EDGE 120/130)
3	Organization
4	Creighton EDGE
5	Organization
6	Student Counseling
7	Organization
8	SSS
9	Quality Focus
10	Student Counseling Services
11	Quality Focus
12	Creighton Grow
13	Quality Focus
14	Career Center
15	Quality Focus
16	Student Leadership & Involvement Center
17	Engagement
18	Schlegel Center for Service & Justice
19	Engagement
20	Campus Ministry
21	Engagement
22	Creighton Intercultural Center
23	Engagement
24	Campus Recreation & Wellness
25	Engagement
26	CURAS (research)
27	Goal Commitment
28	Office of Pre-Professional Advising (learning communities)
29	Goal Commitment
30	Office of Student Retention
31	Goal Commitment
64	Sense of Belonging
65	Sense of Belonging
66	Sense of Belonging
67	Sense of Belonging
68	Sense of Belonging
69	Sense of Belonging
70	Sense of Belonging
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80	Sense of Belonging
81	Sense of Belonging
82	Sense of Belonging
83	Sense of Belonging

Collaboration with other offices, programs, services:

Co-curricular alignment



Pedagogical Approaches

1. Faculty can connect students with other offices, programs, resources on campus that address key noncognitive areas
 - a. Be familiar with resources
 - b. Connect with colleagues in cocurricular areas
 - c. Engage co-curricular resources in your classroom

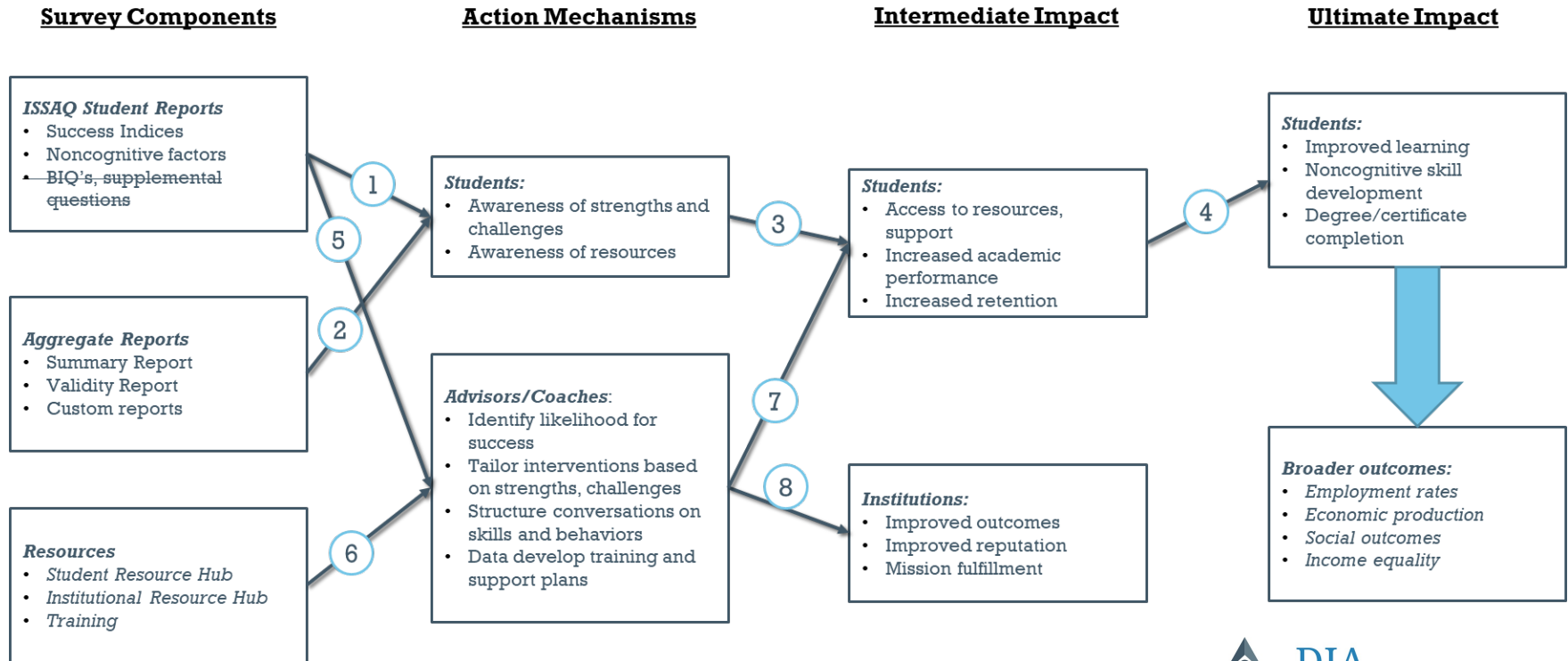
Faculty development for...

2. Growth Mindset
3. Engagement
4. Sense of Belonging
5. Self-Efficacy

Week	Topic	Description	Activity	Exercises
Week 1	Introduction	Review the importance of noncognitive skills in student success. It will also introduce and allow time to complete the ISSAQ Student Survey.	ISSAQ Assessment	ISSAQ Reflection*
Week 2	Sense of Belonging	Discuss students' reflections on their ISSAQ-SS. Students break into groups to discuss areas of interest from the survey. Finally, a discussion on the importance of connection and social networks. <i>*Potential collaboration with student affairs/clubs/orgs.</i>	Group discussions	
Week 3	Help Seeking	Class discussion on the importance of asking for help. Review various campus resources and discuss "Research-a-resource" assignment.		Research-a-Resource*
Week 4	Organization	Discuss "2-for-1" expectation in college-level courses. Students complete a "time budget" and discuss various ways they use (and could better use) their time.	Time Budget	
Week 5	Engagement	Given that students have settled into their courses, discuss the differences between high school and college-level courses. Emphasize shift in responsibility and variance across classes/instructors.		The College Level Class*
Week 6	Quality Focus	Discuss importance of quality, drafts, and iterative work. <i>*Potential collaborations with writing center, tutoring center.</i>		
Week 7	Calmness & Coping	Discuss stressors and challenges of college life. Participate in guided meditation. Review coping strategies. <i>*Potential collaboration with counseling center.</i>	Meditation	
Week 8	Self-Efficacy	Discuss the role of self-efficacy in success. <i>*Potential collaboration with psychology dept.</i>		A Year from Now*
Week 9	Effort & Persistence	The goal of this section is to emphasize the role of effort in success. Students can discuss times they failed and persisted.	Brain plasticity	
Week 10	Goal Commitment	As the semester concludes, students can review their reasons for attending college and goals. <i>*Potential collaborations with advising, career center.</i>		My College Plan*

ISSAQ-FYE Course Outline

An Example Assessment Theory of Action

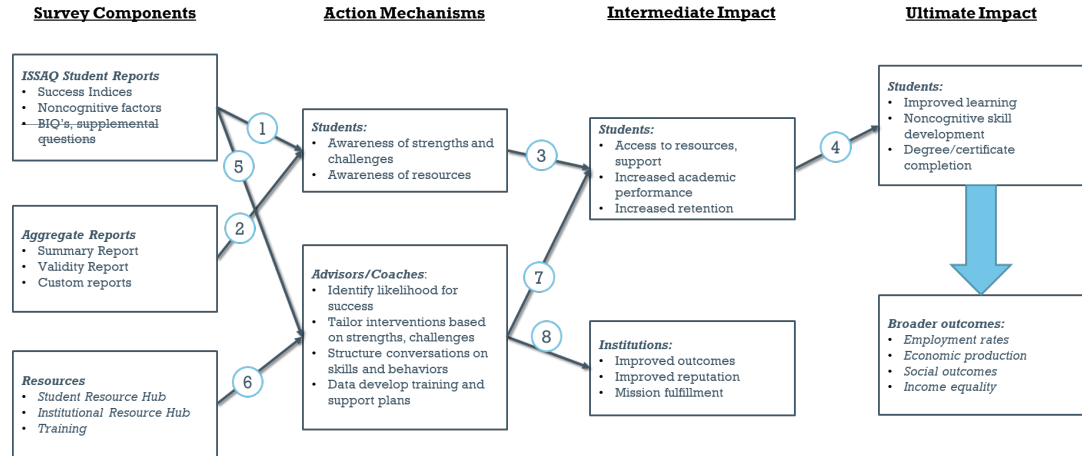


5-minute activity:

Think of your intervention (or even any program you have on campus)

1. What are the key elements of your intervention (e.g., activities, resources, interactions)

2. How are those used by various constituencies to reach your intermediate and distal outcomes?



Thank you! Any questions?

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